L3 ANSWER 37 OF 49 MEDLINE DUPLICATE 16
ACCESSION NUMBER: 1998169192 MEDLINE
DOCUMENT NUMBER: 98169192 PubMed ID: 9510372
TITLE: Staphylococcus enterotoxin A modulates interleukin 15-induced signaling and mitogenesis in human T cells.
AUTHOR: Gerwien J; Kaltoft K; Nielsen M; Nielsen M B; Svejgaard A; Geisler C; Ropke C; Odum N
CORPORATE SOURCE: Institute of Medical Microbiology and Immunology, University of Copenhagen, Denmark..
J.Gerwien@sb.immi.ku.dk
SOURCE: TISSUE ANTIGENS, (1998 Feb) 51 (2) 164-73.
Journal code: 0331072. ISSN: 0001-2815.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199806
ENTRY DATE: Entered STN: 19980611
Last Updated on STN: 19980611
Entered Medline: 19980601

AB T cells expressing the appropriate T-cell receptor Vbeta chain proliferate in response to Staphylococcus enterotoxin A (SEA) pulsed **antigen -presenting** cells (APC), whereas other T cells do not (SEA "non-responders"). Activated human T cells express MHC class II molecules that are high affinity receptors for SEA. Here we show that, in the absence of APC, SEA induces a profound inhibition of IL-15-driven proliferation in MHC class II+, human SEA-"responder" T-cell lines. In contrast, proliferation induced by phorbol esther (PMA) was enhanced by SEA. The inhibitory effect on cytokine-mediated mitogenesis correlates with an inhibition of IL-2Rbeta expression and ligand-induced tyrosine phosphorylation of IL-2R. Cyclosporin A (CyA), an inhibitor of the protein phosphatase (PP2B) calcineurin, strongly inhibits the SEA-induced modulations of cytokine receptor expression. Moreover, CyA inhibits both the anti-mitogenic effect of SEA on cytokine-induced proliferation and the pro-mitogenic effect of PMA. In contrast, inhibitors of PP1, PP2A, protein kinase C (PKC), phosphatidyl-inositol-3-kinase (PI-3K) and mammalian target of **rapamycin** (mTOR) are unable to inhibit the effects of SEA. In a SEA "non-responder" T-cell clone obtained from the affected skin of a patient with psoriasis vulgaris, SEA does not inhibit IL-2Rbeta expression and IL-15-driven proliferation. On the contrary, SEA enhances IL-15- and IL-2-induced proliferation via a CyA-sensitive pathway in this T-cell clone. In conclusion, the present data show that (i) SEA selectively inhibits IL-15- (but not PMA-) mediated proliferation in SEA "responder" T cells, (ii) SEA enhances cytokine-driven growth in psoriasis T cells with a "non-responder" phenotype, and (iii) crosstalk between SEA receptors and the IL-15R (and IL-2R) pathway is mediated via a PP2B-dependent and PP1/PP2A-, PKC-, PI-3 kinase- and mTOR-independent pathway in human T-cell lines.

L3 ANSWER 38 OF 49 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:122032 BIOSIS